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ABSTRACT

Six instructional modules for middle childhood subject area methods courses are designed to target students in preservice middle childhood general education programs. The modules have been developed for each of the content area methods courses to ensure all preservice teachers have ample exposure to the school-to-work (STW) philosophy and opportunities to practice the relevant skills they will want to develop in their students. Each of the six modules highlights different components of STW curriculum and emphasizes different approaches to the inclusion of students with special needs. Each module is organized into these five sections: rationale, goals and objectives, in-class activities, workplace connection, and evaluation. The modules are Middle Childhood Math Methods: ASTW Instructional Module Emphasizing Gender Equity (Ann Dinkheller, Debora Kuchey); Middle Childhood Science Methods: ASTW Instructional Module Emphasizing Teaming (Cindy H. Geer); Middle Childhood Language Arts Methods: ASTW Instructional Module Emphasizing Communication (Mary Ann McConnell); Middle Childhood Social Studies Methods: ASTW Instructional Module Emphasizing Diversity (Ginger Kelley McKenzie, Winston Vaughn); Middle Childhood Content Area Literacy: ASTW Instructional Module Emphasizing Interdisciplinary Studies (Leslie Prosak-Beres); and Middle Childhood Arts Integration: ASTW Instructional Module Emphasizing Problem-Based Learning (Mary Lisa Vertuca). Power Point presentations that can be used with the modules are attached. (YLB)

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# School-to-Work and Inclusion in General Education Teacher Preparation Programs: Instructional Modules for Middle Childhood Subject Area Methods Courses

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## Introduction

Congress enacted the School-to-Work Opportunities Act of 1994 (P. L. 103-239) in response to the 1991 report from the Secretary's Commission on Achieving Necessary Skills (SCANS) which identified five competencies and three foundations students must acquire to be successful workers in the modern workplace. The identified competencies included 1) resources, 2) interpersonal skills, 3) information, 4) systems, and 5) technology. The identified foundations were 1) basic skills, 2) thinking skills, and 3) personal qualities (SCANS, 1991).

The school-to-work initiative is an approach to career education which calls for a collaborative effort between schools and business to combine school- and work-based learning with connecting activities such as counseling and mentoring (Brolin, 1995). The purpose is to prepare ALL students for the world of work in the twenty-first Century by integrating academic and vocational learning and relating it to a particular industry (Hudelson, 1994). School-to-work programs target students, including those with special needs, in kindergarten through post-secondary education (Brolin, 1995).

University teacher education programs across Ohio are in the process of reorganizing to accommodate major changes in the state requirements for licensure. These changes have provided an excellent opportunity for the Elementary Education Department faculty at Xavier University to develop innovative lessons as they redesign their methods courses. To that end, they have developed a series of content area teaching modules which emphasize school-to-work instructional activities that can contribute to the effective inclusion of students with disabilities in general education middle childhood classrooms. The faculty has targeted the middle childhood program because students of that age group are emergent learners. Middle childhood students have started to develop life aspirations, and to that end, they are beginning to see themselves applying the information they are learning in school (Hanley-Maxwell & Collet-Klingenberg, 1997). At the same time, the school structure changes at the middle childhood level to a model that utilizes separate subject area instruction. This stage is especially important for students with

disabilities. Inclusive practices become more complicated at the middle childhood level as the academic content becomes more abstract and sometimes disconnected from practical experiences. These factors make it more difficult for many students with disabilities to understand the concepts being taught and inhibit their ability to develop useful employability skills for the future. However, a school-to-work approach may help students with disabilities participate more effectively in the general education curriculum and help them prepare to transition from school to integrated community settings.

Infusing school-to-work instruction in the school curriculum involves developing an instructional program that is composed of the three core elements, which include 1) school-based learning, 2) work-based learning, and 3) connecting activities. School-based learning deals with instruction and experiences that are based on academic and occupational skills. Work-based learning experiences take place in or relate directly to actual work environments. Connecting activities build and maintain bridges between school, work and other adult environments. At the middle school level, this translates into topics such as identifying personal interests, aptitudes, and abilities, learning about various career options, and exposure to adults in a variety of occupational roles. For example, in collaborative projects between teachers and community workers, students might learn about different career options while they study applied math and biology at the local botanical gardens or learn script writing and measurement skills for set construction with the local theater group (Miller, Shambaugh, Robinson, & Wimberly, 1995). While students learn and practice important academic and social skills, such as writing and interviewing, they also might learn about a variety of careers in their community through the development and then implementation of a local employer survey (Owens-Johnson & Johnson, 1999).

The participating general education university faculty have developed instructional modules that provide preservice teachers with knowledge and experience in appropriate methods for using school-to-work curricula in an inclusive environment in their middle childhood classrooms (Hoerner & Wehrley, 1997). They each have expert knowledge in different content

and have integrated that knowledge into the development of the module for their subject area. The participating special education faculty member has collaborated with each of them to assure attention is given to the inclusion of students with disabilities in all of the modules.

The modules are designed to target students in preservice middle childhood general education programs. They have been developed for each of the content area methods courses to ensure all preservice teachers will have ample exposure to the school-to-work philosophy as well as several opportunities to practice the relevant skills they will want to develop in their students. Each of the six modules highlights different components of school-to-work curriculum and emphasizes different approaches to the inclusion of students with special needs. Each module is organized into seven sections: 1) rationale, 2) goals and objectives, 3) content summary 4)in-class activities, 5) workplace connections, and 6) evaluation and, 7) technology connections. The rationale statement provides the reason for teaching school-to-work concepts in the particular course. The goals and objectives identify the knowledge and skills students are expected to acquire. The content summary describes the instructional material the instructor should cover during the lesson. In-class activities allow the student to become active participants and practice using the information they have learned. Workplace connections give students practical experiences either by bringing workers from the community into the classroom or sending the students into the community to observe and interact with the workers. The evaluation is designed to determine the extent to which the students have had a successful learning experience. Technology connections are websites, PowerPoint presentations, and other supports relevant to the topic or useful in performing the activities associated with the module.

## Middle Childhood Math Methods: A School-to-Work Instructional Module Emphasizing Gender Equity

Ann Dinkheller & Debora Kuchey

**Rationale:**

This module uses personal interviews to help ALL middle school students see the advantage of taking mathematics courses in high school to improve earning potential for future careers. It also involves collecting, organizing, and analyzing data related to students' perceptions regarding gender equity.

**Goals and Objectives:**

- Students will apply ideas of gender equity in their field experience settings by looking for ways to reduce bias in the classroom.
- Students will connect mathematics content to the real world by connecting school-to-work and middle school mathematics education.
- Students will explore the mathematics requirements for a wide variety of careers and investigate the effect of the number of mathematics courses taken on potential career earnings.

**Content Summary:**

Equity is an important aspect of every classroom in a school. Teachers need to be conscious of equity in terms of gender, race, disability, and socioeconomic background. Respect for others regardless of ability or background is a critical component of the effective classroom and workplace. The complexion of the workforce is changing. Minority groups represent the greatest source of future workers. If present trends continue, the majority of workers entering the labor force during the first half of the next century will be a combination of immigrants, women and minorities. Individuals with disabilities are another valuable pool of potential workers.

Student achievement in mathematics is a national concern. The proportion of the grade school population that is comprised of minorities and low-income students is increasing dramatically. Achievement in math is an acute problem for elementary and secondary minority and female students as well as for many students with disabilities. Although female and male students enter school roughly equal in measured ability, female students fall behind their male classmates in higher-level mathematics and in the ability to analyze scientific procedures. Equity refers to the range of concerns and actions that schools, teachers, and districts take when they act on the belief that all students, regardless of background, have the ability to learn. The classroom climate, controlled to a great degree by the teacher, can facilitate equal access or prevent it.

The National Council of Teachers of Mathematics (NCTM) emphasizes that mathematics is for ALL students. They further define "every child" as students who have been denied access in any way to educational opportunities as well as those who have access; students who are African American, Hispanic, and other minorities as well as those who are considered to be a part of the majority; students who are female as well as those who are male; students with disabilities as well as non-disabled students; and students who have not been successful in school and in mathematics as well as those who have been successful.

**In-Class Activities**:

Students are asked to answer the following questions:

- As future teachers, what can you do to be sure that your mathematics classroom procedures and environment are as equitable as possible?
- How can you be sure that ALL students are receiving the encouragement and information they need in their mathematics education for future success in a career?
- What can be done to reduce bias in choosing careers and to make sure that students do not unknowingly place limits on themselves by choosing or failing to choose certain mathematics courses?
- As a future teacher, how can you develop mathematics lessons which include ALL students and make connections to the workplace?

Students are then asked to view a video tape of their field experience and complete a self-evaluation checklist. They also are asked to:

- Brainstorm ways to use the self-evaluation checklist (Appendix 2) with your future students.
- Ask two middle school students and two elementary students to complete the mathematics survey (Appendix 3) and bring your data to class.
- Work in small groups to analyze the gathered data. Analyze the results from the whole class. As a group find an appropriate way to display the data.

**Workplace Connection:**

- The students choose one career from a "Math Is Important…" handout (Appendices 1a, 1b, 1c, and 1d) and contact someone who works in that field.
- They ask the contact person how she uses math in her job and what math courses she took in high school that have been helpful to her and add the information to the class spreadsheet. Research through census or almanac web sites to find the average salary for the job to connect math to potential career earnings.

**Evaluation:**

Students are asked to write a field experience journal reflection that describes the way they were able to incorporate a school-to-work activity into their field experience classroom. They should focus their responses by answering the following questions:

1. How did the students respond to the activity?
2. What efforts and/or modifications did you make to accommodate inclusion students?

**Technology Connections:**

The school to work lecture is presented with a ***Power Point*** presentation using several ***hyperlinks***. The web sites for the hyperlink include:

- Career and Choices: http://www.wiuadm1.wiu.edu/mioip/careers/tableofcontents.asp (This site includes listings of careers and the mathematics courses along with other high school courses needed to pursue these careers.)
- Career Resource Guide for Teachers: http://www.org/teachers/math/gender/13career.html (This site includes listings of opportunities and materials to encourage young women and minorities to continue their studies in mathematics, science and technology.)
- Equity Site: http://www.woodrow.org/teachers/math/gender/07skits.html. (This site includes skits concerning inequity of students in the classroom)

- Inclusion: http://www.tiac.net/users/ckassoc/Moving_to_Mainstream.htm (This site provides an overview of the thinking behind changing from "Equity a separate concept," to "High quality includes all.")
- Instructional Resources: http://www.coe.uga.edu/ingear/websites.html (This site includes listings of videos, books and websites, which address the idea of Equity in the Classroom and Inclusion.)
- Lesson Planning: http://cyperbee.com, http://ericic.syr.edu/Virtual/Lessons, http://www.discoveryschool.com/schrockguide (These sites include lesson ideas related to technology, mathematics and the integration of math and other content areas. Other hyperlinks include the appendices needed to complete the activities.

The school to work module also includes activities that use technology. Technology based activities include:

- **Videotape**: Students watch the ***videotape*** of themselves teaching in their field experience. They evaluate themselves using the self-evaluation checklist, found in Appendix 2. *(The purpose behind this activity is to make pre-service teachers aware of their teaching practices and any equity issues that may exist.)*
- **Survey**: Students interview two elementary and two middle school students to complete the mathematics survey, found in Appendix 3. The students bring the completed data to class and choose an effective means of displaying the class data, using the ***computer*** or ***graphing calculator.*** *(The purpose of this activity is to discover the stereotypes that prevail among elementary and middle school students today.)*
- **Workplace Connection**: Students choose a career from a "Math is Important …", found in Appendices 1a-1d. They are encouraged to contact someone who works in that field. ***E-mail*** contact is encouraged, when available. From their contacts, they ask how their contact person uses math in their job and the highest-level math course they took in high school. Then the students investigate, via the ***Internet***, the average salary for this career. The class combines their information into a class ***spreadsheet***. Then using a ***graphing calculator***, the class makes a scatter plot to see if a correlation exists between the highest level of math course taken during high school and the potential career earnings. *(The purpose of this activity is to familiarize pre-service teachers with the use of the graphing calculator and spreadsheets, along with discovering the impact that mathematics can have on the future of out students.)* http://govinfo.kerr.orst.edu/earn-stateis.htm, census information.

## Middle Childhood Science Methods: A School-to-Work Instructional Module Emphasizing Teaming

Cindy H. Geer

**Rationale:**

This module uses the cooperative learning strategies of teamwork, social skill development, and accountability in small group activities to teach science methods and its application to the school-to-work program in middle schools. This strategy provides an excellent way to promote inclusion and prepare students for teamwork and collaboration in the workplace and prepares preservice teachers to use this same teaching approach in the science classroom.

**Goals and Objectives:**

- Students will be able to apply the state and national science standards to science curricular goals and objectives in the middle school classroom.
- Students will be able to teach science content and promote collaboration, teamwork, and social skills using a cooperative learning approach.
- Students will connect real world science content to school-to-work and middle school science education topics.

**Content Summary:**

Teaching future science teachers how to make connections between science content and the world of work, showing them how to use the cooperative learning strategy effectively, and providing them with many examples of science content with links to careers will assist these preservice teachers in several ways. First, it will help future students' understand their academic studies and their future career choices as well as making learning more meaningful by building the curriculum around 'real life' applications. Second, these future middle school science teachers will be able to help their students identify and develop personal qualities and recognize the application of these qualities in their daily lives. They can promote their students' thinking and collaboration skills by connecting the science curricular objectives to the goals of school-to-work. Making these connections will help students develop intellectual capabilities, cultivate social skills, define personal values, and understand adult roles.

Cooperative learning strategies are used to teach the science content and school to work ideas. The key components of cooperative learning are individual responsibility, positive interdependence, social skills, and heterogeneous grouping. The benefits in the classroom are inclusion, social skill development, teamwork, content understanding, and motivation. For novice users of cooperative learning, be sure to 1) set specific time limits, 2) start with short, simple activities, 3) start with two students in a group then eventually increase the group size to four, 4) practice social skills, and 5) process group work.

**In-Class Activities:**

Using Kagan's line-ups structure (1992), the students assemble on a continuum according to whether they agree or disagree (0% -disagree to 100% - agree) with the following statement: *A major mission of middle school science today is to prepare all students, including students with special needs, for the world of work.*

- They turn to the person next to them and explain why they chose their position.

- They fold the line so that the person at 0% is talking with the person at 100% (and so on) and try to convince the person to change their position.
- Then they discuss the responses in the line-ups activity and the benefits of using this strategy.

The students use a 'think-pair-share' strategy to discuss the following question: *What are the major components of school to work at the middle school level?*

- They count off by two's, think about the question, share with their partner, and then share with the class.
- They discuss the results of school-to-work components discussion and the benefits of the "think-pair-share" strategy.

The students form cooperative groups to conduct an experiment which utilizes both science content and the school-to-work philosophy. The cooperative groups are given a social skill to develop, such as accepting all ideas. Each group must formulate a way to test the absorption of different brands of paper towels and answer the following question: *What paper towel absorbs the most?*

- The students develop a way to test the absorption of different brands of paper towels by developing a hypothesis, developing an experiment to test the hypothesis, developing adaptations to facilitate full participation of students with disabilities, identifying controls, variables, needed materials, and performing the experiment [Collect and record data. Interpret the results.].
- They discuss the science concepts taught in the lesson by considering the following questions: What science concepts are taught in the lesson? How does this activity meet Ohio and National Curriculum Standards? What careers could be connected to the skills and concepts taught in this science lesson? [What modifications were needed to allow students with disabilities to successfully participate in the activity?]
- They discuss the teaching strategy of cooperative learning, including the key components of individual responsibility, positive Interdependence, social skills, heterogeneous grouping, and classroom benefits such as social skill development, inclusion, teamwork, content understanding, motivation (Johnson et al., 1994).

Using a round-robin technique (Kagan, 1992), the students brainstorm low skill level jobs to high skill level jobs as they discuss the results of the career connections and the science activity.

- They count off by fours and move clockwise around the group sharing their ideas.
- They examine the list of careers generated using the round-robin strategy and brainstorm how a person in a particular career would need to team/collaborate, making sure to consider ways to provide opportunities for individuals with special needs as well as the importance of teaming and collaboration in the workplace.

**Workplace Connection:**

A representative from a local company comes to class to speak about teamwork and interdependence, positive work habits, and attitudes in the workplace. The speaker should make explicit connections between the world of school and the world of work and give examples of workers in the company who need science knowledge. The speaker also should provide information about how to facilitate the inclusion of employees with disabilities in the workplace,

why the connections between middle school science and the world of work are important, the science content needed to do the job, and how teaming is used in the workplace.

**Evaluation:**

After each in-class activity, have the students reflect on their experience. They should respond to the following:

- What careers could use the skills and science concepts learned in this activity?
- Give examples of low to high skill level jobs that incorporate science knowledge.
- Discuss the components of cooperative learning, including: individual responsibility, interdependence, social skills, heterogeneous grouping and how they are used in the classroom. Discuss the importance of these skills in the workplace.
- Discuss the benefits in the middle school science classroom, including: inclusion, social skill development, teamwork, content understanding, and motivation.

Throughout the semester, students include real world, real work, and inclusion connections in each of their science lesson plans. They also identify where and how they adapt their lesson planning to ensure their students with disabilities are able to fully participate in the activities.

**Technology Connections:**

This unit is presented to preservice teachers via a PowerPoint presentation. The PowerPoint presentation connects science education with the world of work and integrates cooperative learning strategies, inclusive practice, and science teaching strategies into approximately 2-3 class sessions. Students use the internet to:

- Research school-to-work websites to gather background information on School-to-work and its principles (See Slides 8-12, 16-17)
  - http://www.stw.ed.gov/execpage.htm
  - http://www.stw.ed.gov/
- Research science careers related to the paper towel experiment. (See Slides 22, 30-32) Look at company websites such as:
  - http://www.pg.com/careers/index.htm
  - http://www.internationalpaper.com
  - http://www.pulpandpaperonline.com/content/homepage/default.asp
  - http://www.kimberly-clark.com
  - http://www.forestindustry.com/
  - http://www.ejobs.org/
- Email or ask an expert such as:
  - http://www.ejobs.org/
  - http://www.eecs.umich.edu/~coalitn/sciedoutreach/
  - http://www.ran.org (rainforest network)
- Develop science lesson plans
  - http://www.thegateway.com
  - http://www.thegateway.com
  - http://www.environlink.org
  - http://www.enc.org

- Locate global Online Projects that can be used to connect the middle school science classroom and the world of work.
  http://www.moe.edu.sg/iteducation/initiatives/projects/

The school to work module also includes activities that use technology. Technology based activities include:

- **Spreadsheets:** Students compile experiment data on a spreadsheet and graph result. (see slide 21-22)
- **Powerpoint:** Students present results of experiment, Internet searches, and/or career research via PowerPoint or other multimedia software.
- **Email:** Students send questions to company guest speaker prior to his or her visit to the college campus.
- **Digital camera or scanner:** Students use a digital camera or scanner to incorporate graphics into presentations.

## Middle Childhood Language Arts Methods: A School-to-Work Instructional Module Emphasizing Communication

Mary Ann McConnell

**Rationale:**

Learning the language arts is more meaningful to ALL students when they see the relevance of reading, writing, speaking and listening in their every day lives and comprehend how it can affect their ability to get good paying jobs. By helping students see the relevance of mastering language arts skills and by relating those skills to real work experiences and career and education options, teachers can help them learn and use skills that will empower them to be effective employees and good citizens in an inclusive community. By providing activities that help students determine where their aptitudes and abilities fit, teachers can help students understand the link between their current academic studies and their future career choices as well as make learning more meaningful by relating it to the students' job interests.

**Goals and Objectives:**

- Students will connect language arts content to the real world by integrating school-to-work with middle school language arts education and examining the Ohio Competency Based Program expectations.
- Students will identify training and inclusion techniques used by employers who hire workers with special needs that can be incorporated into the language arts methods courses.
- Students will promote interpersonal communication skills through collaboration and teamwork.
- Students will practice data collection and analysis skills.

**Content Summary:**

It is important for preservice teachers to think about how they will help students prepare for the workforce. As teachers, they will want to help ALL their students recognize the applications of language arts skills to their daily lives. To do that, the preservice teachers should relate language arts skills to real work experiences as well as career and education options. They will need to be able to identify their students' interests, aptitudes, and abilities as well as personal qualities. They will teach their students to communicate effectively in oral and written form as well as practice thinking and problem solving skills. They also must learn to help students recognize the need to work effectively alone and in groups that fully include diverse populations. Finally, they will need to know how to develop and facilitate individual responsibility and self-learning.

**In-Class Activities:**

Students answer the question: What language arts skills do different workers need?

- They work in small groups to list as many reading, writing, listening, speaking skills which workers such as teachers, mechanics, construction workers, fitness trainers, or parents would need to be effective.
- They create a drawing, diagram, list, or paragraph of what makes ALL individuals, including those with special needs, successful workers (including consideration of the academic and workplace adjustments related to language arts skills that can facilitate the full participation of students with special needs).

- They brainstorm how to find out what language arts skills are actually being used and what adjustments are actually being implemented, in the real work world, to ensure that ALL individuals, including those with special needs, are able to become effective, successful workers.

In small groups, the students prepare to interview a variety of different workers about the language arts skills they use in their jobs.

- They develop an interview form and a set of interview questions that elicit information about the language arts skills (reading, writing, listening, speaking) people need to be effective in their line of work.
- They determine in what public place they will conduct their interview (the airport, a shopping mall, a bowling alley, a fast food restaurant, or other public venue).
- They develop an explanation so the people they will be willing to respond to their questions.
- They get permission to interview at the location they have chosen and obtain written permission from each person question before they conduct the interview.

**Workplace Connections:**

The students work individually or in small groups to interview people in the community to find out what language arts skills they need in their lives.

- They interview a minimum of ten (10) people, including at least one person with a disability, men and women, individuals from different races and cultures, younger and older people, and people with blue collar and white collar jobs.
- They compile and analyze their data as they consider the following questions: Are there similar skills that cross all occupations? Are there skills that appear to be related to specific types of occupations?
- They present their data to the whole class as well as keep the data for reference during the course of the semester.

**Evaluation:**

The students present their data analysis in an oral format to their class peers. The presentation must include a discussion about how the data can be used in the middle school language arts curriculum and must relate the findings to the Ohio Competency Based Program expectations.

**Technology Connections:**

The school to work lecture is delivered via a Power Point presentation. Other suggestions for incorporating technology include:

- The students use technology in this module to audio tape their interviews as well as compile and analyze interview data on a computer spreadsheet.
- Students may choose to present their findings to the class in a Power Point presentation. Students learn and use appropriate E-Mail protocol for the workplace
- Via e-mail, students send memos and interview forms to the professor.
- Using word processing software, students develop a newsletter or brochure that communicates the necessary language arts skills needed for various jobs.
- Using web page development software such as Frontpage or Netscape Composer, students develop a webpage that focuses on employment opportunities and skills needed.

- A scanner or digital camera can be used to incorporate pictures and forms from the interviews into the multimedia presentation.
- For compiling the findings of the interviews, students can use software such as Access to develop a database of the information.
- Collaboration with another university language arts methods class could be established to share interview findings and information. Communication would be conducted via e-mail.

**Middle Childhood Social Studies Methods: A School-to-Work Instructional Module Emphasizing Diversity**

Ginger Kelley McKenzie & Winston Vaughn

**Rationale:**

Middle school students need to see a connection between the social studies curriculum and the jobs they will have some day in a diverse global environment. This module is designed to help preservice teachers understand the need to make those connections with their students.

**Goals and Objectives:**

- The students will be able to describe diversity and the multicultural aspects of the workplace.
- The students will be able to teach their students to develop positive work habits and attitudes and social skills.
- The students will participate in a work site visit.

**Content Summary:**

Why is School-to-work needed? Many young people leave school unequipped with skills they need to perform the jobs of a modern, competitive world economy. As a result, employers have difficulty finding workers who are adequately prepared for today's demanding jobs. Many young people lack awareness of what is available in the job market and school-to-work increases their opportunities to become aware of opportunities and prepare for those careers.

Middle school social studies addresses the democratic ideal, cultural diversity, economic development, global perspective, and participatory citizenship. It should include U. S. and world history integrated with geography, international studies, and discussion of the vital and persisting issues of public life. These concepts need to be connected with multiple cultural perspectives. School-to-work can connect the social studies curriculum with the diversity of the real global community.

**In-Class Activities:**

The students will work in small groups to develop a series of questions to ask guest speakers who will be invited to speak about diversity and employment practices in the workplace. The speakers will include faculty members from the human resource or business program at the university who will speak about the workplace with respect to diversity and multicultural employment practices and an employee with a disability who talk about how the work environment is modified to meet his or her specific needs.

- They generate questions and refine them during a whole class review of their small group work.
- They discuss and develop individual plans to do a work site visit.

**Workplace Connection:**

The students pick a field site and develop their own site visit plan by referring to Ohio Social Studies Competency-Based Program requirements for grades 4, 5, 6, 7, 8, and 9. The students use the questions they generated when they go to the work site and interview a person with special needs or with a diverse cultural background. Possible sites include:

- A visit to an historical site and interview the employees about job opportunities.

- A visit to a government office to learn about their affirmative action policies. Ask about the job opportunities and if they have employed people with disabilities or people from different cultures.
- A visit to an historical site and review the time-line of the event and relate it to national and world events. While you visit the site, observe the job opportunities and ask the employees for their insights about their jobs. Do they hire individuals with special needs and diverse cultural groups and do they have an affirmative action policy?
- A visit to a local company which does extensive international business. What positive work habits and social skills are expected from their employees? Investigate their affirmative action plan. Do they hire individuals with special needs and do they have statistics on their diverse population?
- A visit to a company that produces a product like air craft engines to learn about supply and demand, work habits, social skills, affirmative action, and diversity in their work force including the hiring of individuals with special needs.
- A visit a civil or criminal court. Investigate job opportunities which are available, such as judge, lawyer, paralegal, probation officer, court administrator, court reporter, correction officer, and so on. Learn about their affirmative action policies as well as if individuals with special needs and with diverse cultural backgrounds are employed.
- A visit a factory and learn about how they meet all environmental regulations for clean air, and so on. What jobs are available at this company? Investigate their affirmative action policies and if they employ individuals with special needs and with diverse cultural backgrounds.

**Evaluation:**

The students turn in a written report about their on-site visit as well as provide a copy for each student in the class. The report should cover the following information:

- What did you learn at your site about the affirmative action plans?
- What did you learn about how the employers provide opportunities for individuals with special needs or with diverse cultural backgrounds?
- What did you learn about diversity in the workplace?
- What did you learn about how your field experience met a social studies skill requirement under the Ohio Competency Based Program expectations?
- How will you integrate what you did for this assignment with your own social studies class in the middle school environment?

The students also meet in small groups and share what they learned from this experience. The group participants are asked to evaluate each member of their group by writing a short comment that can be used to strengthen their ideas.

**Technology Connections:**

The school to work lecture is presented with a Power Point presentation using a hyper link. The web sites for the hyperlink include:

- School-to-work site: http://www.ici.coled.umn.edu/all/overview.html,
- Diversity site: http://www.iecgc.org/,
- Valuing diversity and inclusion site: http://www/paragonmanagement.com/

Students gather further information about school-to-work, diversity in the workplace, and inclusion in the work place by researching the following internet sites:

- School-to-work site
  http://www.sna.com/switp/
- Diversity site
  http://www.aimd.org/
- Inclusion sites
  http://www50.pcepd.gov/pcepd/
  http://www.jan.wvu.edu/
  http://www.inclusion.org/htdocs/what_is/
  http://janweb.icdi.wvu.edu/
  http://www.sna.com/switp/drbutton.htm/

The school to work module also includes activities that use technology. Technology based activities include:

- **Email:** The professor communicates with guest speaker from the university human resource division through email to set up the date for the lecture. The professor also uses email to communicate with the sites which are visited by the students. The students develop and email questions to the guest speaker one-week before she arrives. They also communicate with on-site locations (historical site, government office, local company, civil or criminal courts, and local factory).
- **Workplace Connection:** While at their sites the students use a digital camera, or a regular camera or video to take pictures of the handicapped accessible facilities and parking for the handicapped. This information is included in their final reports.
- **Wordprocessing:** The students write up final report with work processing and then develop the power point presentation. (The information covered in the power point presentation is listed in the evaluation section of this module.)
- **Powerpoint:** The students final reports are presented in power point format. The students scan in the regular photos put the photos taken with the digital camera into the computer for the power point presentation.

**Middle Childhood Content Area Literacy: A School-to-Work Instructional Module Emphasizing Interdisciplinary Studies**

Leslie Prosak-Beres

**Rationale:**

This module focuses on reading strategies relevant to acquiring information, curricular areas, student interests, and future careers. Students need to develop a sensitivity towards all learners through focused reading and college classroom interactions as well as create a classroom that meets the needs of all learners through the development and implementation of thematic units related to career exploration and with meaningful connections to school-to-work applications. By creating a 'shadowing' relationship with the university community's world of work, students will be able to relate reading in college classroom studies to life vocations. Diversity in jobs, communication styles, and learning abilities can be observed and translated into thematic units of study for a middle school classroom of learners.

**Goals and Objectives:**

- The students will be able to present well structured and accessible professional knowledge about reading, appropriate independent learning strategies, and motivation to learn more about teaching and learning styles.
- The students will be able to integrate thematic units which will engage ALL learners in active reading and thinking as a part of specific subject instruction in an increasingly interconnected local and global environment.
- The students will be able to create concrete classroom learning experiences that explore the reading/writing process as it relates to school-to-work job opportunities from job applications to monthly reports.

**Content Summary:**

Teachers and students are influenced at any given moment by several contexts, including 1) *physical –where* we are; 2) *social* – other individuals who may be around us; 3) *psychological* – our knowledge, emotions, and attitudes in a particular situation; and 4) *cultural* – the school and home as well as community environment. The challenge for teaching reading across the curriculum is to create a fertile classroom environment where ALL students can develop communication skills and strategies to comprehend their world better and enrich their lives. Teachers must create a supportive classroom environment where students can take responsibility for their own learning and become independent thinkers while they actively participate in the learning process working collaboratively and learning from others. The fundamental purpose of content area literacy – listening, speaking, reading, and writing – is to communicate. Teachers integrate instruction within the content fields by creating experiences where speaking, listening, reading, and writing influence one another and are used in real contexts, such as the workforce. Consequently, a module in content area literacy would include topics such as: issues in literacy and literacy instruction, understanding meaning in text, comprehension assessment and students who struggle with the reading process, technology in reading instruction, and reading in the real world.

**In-Class Activities:**

The students discuss and evaluate areas of the reading process as it connects to the world of work to develop an understanding of the assumptions and misconceptions presently surrounding content area literacy. In mini and/or group projects, preservice teachers discuss and evaluate areas of the reading process as it connects to the world of work. The projects may include one or more of the following areas related to reading: language diversity, assessment, literature exploration, vocabulary development, writing to learn versus writing to communicate, and study strategies.. Some examples include:

- Explain how you would select and use young adult trade book literature in your content areas and why it is important to supplement texts with young adult trade books.
- Give concrete examples of how a content area teacher can make vocabulary instruction effective by making vocabulary meaningful and connecting it to the real world.
- Identify and discuss strategies that effectively include students with disabilities in the learning process in your content area.

**Workplace Connection:**

The university setting provides a perfect study of the world or work. From the highest administrative level to the workings of the physical plant operations, skills in all aspects of reading are necessary. The students 'shadow' workers in an office or area of the university to:

- Observe and interview the workers, noting and categorizing the types and variety of content area literacy needed for each job.
- Journal about the reading skills and strategies needed to fulfill each of the jobs in that setting.

The students also visit a content area classroom for at least a week and keep a log of writing activities they observe. They pay particular attention to the adaptations made for students with disabilities and the connections made to the world of work.

**Evaluation:**

The students prepare thematic units initiating the teaching and learning of reading, writing, speaking and listening skills as they connect to the world of work. All learning styles and learning abilities, as well as content areas must be addressed in the preparation of the activities in each of the thematic units and must make direct connections with the workplace. The students also provide a self-evaluation to assess the effectiveness of the unit development, teaching style and attention to the learning styles and needs of ALL the students participating in the activities of the unit.

**Technology Connections:**

Power Point presentations using animation (visual and auditory), video clips, and/or select digital photography are used to present the school to work lecture as well as the students' thematic units. Additionally, the thematic units include technology (i.e.; audio and video examples of job site workers) integrated into lessons planned to teach middle school students the relationship of reading to the world of work. Students create videos to record their "shadowing" experiences and audio tape their interviews with job site workers. Students also develop a computer spreadsheet with data illustrating the various types of reading used in the world of work.

**Middle Childhood Arts Integration: A School-to-Work Instructional Module Emphasizing Problem-Based Learning**

Mary Lisa Vertuca

**Rationale:**

Students seeking middle childhood certification need to understand the role of the arts in people's lives and become aware of the range of careers that make use of the arts. They need to learn how to present lessons that clarify this knowledge and direct ALL their middle childhood students to explore career possibilities in the areas of dance, drama, visual art, and music.

**Goals and Objectives:**

- Students will design a unit exploring arts related careers and is connected to a theme of the Ohio Model Comprehensive Arts Education goals for middle school students.
- Students will research careers in the arts that encourage participation of students from a broad range of backgrounds and circumstances, including students with disabilities.
- Students will incorporate technology into their lesson presentation or their research into career fields involving the arts.

**Content Summary:**

Middle childhood arts integration encompasses the Ohio Model competencies (Ohio Department of Education, 1996). Students go beyond the "activity" level of arts integration and learn essential understandings related to the arts. Middle childhood students are beginning to see themselves as possessing unique talents, as having the ability to make choices that affect their lives, and as being separate from their parents and siblings. The arts provide a valuable venue for exploring these talents. School-to-work provides a structure for exploration of careers in the arts. This module helps the students investigate careers that use art skills or require knowledge of the arts and hobbies or interests that involve the arts.

**In-Class Activities:**

The students work in teams to explore and research the following: *"Mall Two Thousand is being designed and you are ready to help? ...or are you?"*

- They brainstorm about careers that use the arts: visual, music, dance, and drama to consider which careers they might be interested in.
- They discuss the careers they think are involved in designing a mall. They use the Internet to research the most up to date career information as they consider the following questions:
  1. Would your career choice be important in the development of the new mall?
  2. Would you be able to work there once it is built? If so you may proceed to learn how you reached your career goal.
  3. Did you need technical training?
  4. Did you need a two year degree?
  5. Did you need a bachelor's degree?
  6. Was an internship or cooperative program required?
  7. Did you need a graduate degree in your field?
  8. Would you be able to do this job if you had a disability?
  9. What adaptations would allow an individual with a (physical, visual, hearing, developmental) disability to perform this job?

Students write their career choice/job description along with information they have gathered about training/education.

The teacher puts a diagram of the mall on the overhead projector and the students first view the outside of the mall to consider the landscaping and architecture to determine how to meet the needs for handicapped accessibility. Secondly, they look at a drawing of the inside of the mall and discuss issues such as:

- What the handicap accessibility needs are and where supports should be located?
- What colors and textures the interior design should accentuate?
- What signs should direct people through the mall and where they should be located?
- What locations would be appropriate for special displays?
- How many restrooms and telephones are needed and where they should be located?
- Should there be a center stage where people in the community congregate for performances?
- How could store windows be designed to catch shoppers eyes?
- What type of music should be playing for the shoppers?

The students work in small groups to design different physical aspects of the mall, such as the outdoor landscaping and architecture, the interior spaces, store displays and publicity, accessibility issues, and so on. Each group contributes to the design and development of the mall giving particular attention to how they will consider people with disabilities.

**Workplace Connection:**

The students visit a local mall to see how many of the ideas they developed for their in-class projects are already in place at that particular mall. The visit includes a meeting with the management at the mall to learn how successful the various concepts the management implemented actually have been in accommodating individuals with disabilities. The students also investigate any future plans the management may have to increase accessibility.

**Evaluation:**

The students work in their small groups to write and present a short play that gives an interpretation of their Mall project to the class. Performance assessment may include video, recitation, pantomime, improvisation, drawing, painting, and interpretive dance. Students also consider what adaptations are needed to allow students with disabilities to successfully perform and/or appreciate the artist performances of others.

**Technology Connections:**

The school to work lecture is delivered with a Power Point presentation. The students use websites to investigate careers in the arts:

- **www.artswire.org**
- **www.jobsmart.org**
- **www.monster.com**

The students will analyze data on computer spreadsheets. They will integrate technology into their final presentations. They may give a Power Point presentation, use a digital camera or instant camera to take and scan photos into the computer, use videos, and/or design and show computer art.

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# APPENDICES

**Appendix 1a.**
**Math is Important in a Wide Range of Careers: Advanced Levels of Math**

| *Advanced levels of math (examples: Calculus, Trigonometry, Advanced Algebra)* | | |
|---|---|---|
| Actuary | Forester and Conservation Scientist | Pharmaceutical Sales Rep |
| Aerospace Engineer | Geologist and Geophysicist | Pharmacist |
| Aircraft Mechanic | Industrial Designer | Physical Therapist |
| Anthropologist | Industrial Engineer | Physician |
| Architect | Industrial Hygienist | Physician's Assistant |
| Astronomer | Laser Technician | Physicist |
| Auditor | Market Research Analyst | Pilot |
| Biomedical Engineer | Mathematician | Podiatrist |
| Botanist | Mechanical Engineer | Principal |
| Ceramic Engineer | Medical and Scientific Illustrator | Sales Engineer |
| Chemical Engineer | Meteorologist | Science Technician |
| Chemist | Nuclear Engineer | Soil Scientist |
| Chiropractor | Numerical Control Machine Tool | Statistician |
| Civil Engineer | Operator | Surveyor |
| Computer Engineer | Numerical Control Tool | Urban and Regional Planner |
| Computer Programmer | Programmer | Veterinarian |
| Computer Systems Analyst | Oceanographer | Wildlife Biologist |
| Criminologist | Operations Research Analyst | Zoologist |
| Economist | Optician | |
| Electrical Engineer | Optometrist | |
| Environmental Analyst | | |

**Appendix 1b.**
**Math is Important in a Wide Range of Careers: High Levels of Math**

| *High Levels of Math (examples: Algebra and Geometry)* | | |
|---|---|---|
| Accountant | Financial Manager | Power Plant Operator |
| Advertising Director | Fish and Game Warden | Psychologist |
| Agricultural Scientist | Forestry Worker | Quality Control Inspector |
| Air Traffic Controller | Funeral Director | Radiation Therapy Technologist |
| Archivist and Curator | Geographer Health Administrator | Radiological Technologist |
| Biological Scientist | Health Club Manager | Range Manager |
| Biomedical Equipment Technician | Jeweler and Watch Repairer | Recreation Program Director |
| Broadcast Technician | Judge | Registered Nurse |
| Building Contractor | Lawyer | Respiratory Therapist |
| Cinematographer | Librarian | Robotics Technician |
| Clinical Laboratory Technologist | Licensed Practical Nurse | Secondary School Teacher |
| Compositor and Typesetter | Locomotive Engineer | Sheet Metal Worker |
| Computer Maintenance Technician | Machinist | Social Worker |
| Computer Operator | Medical Record Technician | Sociologist |
| Dental Hygienist | Medical Records Administrator | Sound Engineer |
| Dental Laboratory Technician | Medical Social Worker | Sports Instructor/Coach |
| Dentist | Medical Technologist | Supervisor |
| Dietician and Nutritionist | Nuclear Medicine Technologist | Surgical Technologist |
| Dispensing Optician | Nuclear Quality Control Inspector | Surveyor |
| Drafter | Occupational Therapist | Tile Setter |
| Elementary Teacher | Oil and Gas Drilling Production | Truck Driver |
| Energy Conservation and Use Technician | Ophthalmic Lab Technician | Ultrasound Technologist |
| Engineering Technician | Optical Technician | Vocational Education Teacher |
| | Paralegal | Water Treatment Plant Operator |
| | Park Ranger | Wholesale Trade Sales Worker |
| | Pharmaceutical Sales Representative | |

**Appendix 1c.**
**Math is Important in a Wide Range of Careers: Applied Math**

| *Applied Math (examples: Business Math and Shop Math)* | | |
|---|---|---|
| Advertising Account Executive | Farm Equipment Mechanic | Payroll Clerk |
| Automobile Parts Service Clerk | Fashion Coordinator | Plumber and Pipe Fitter |
| Automobile Salesperson | Food and Beverage Service Worker | Precision Assembler |
| Automobile Service Advisor | Food Service Manager | Printing Press Operator |
| Automobile Technician | Freight. Stock, and Material Mover | Purchasing Agent |
| Bank Teller | General Maintenance Mechanic | Real Estate Appraiser |
| Barber | General Office Clerk | Real Estate Sales Agent |
| Bartender | Glazier | Receptionist |
| Billing and Rate Clerk | Heating and Cooling Mechanic | Recreation Program Director |
| Bindery Worker | Heavy Equipment Mechanic | Retail Salesperson |
| Bookkeeper and Accounting Clerk | Home Appliance/Power Tool | Retail Store Sales Manager |
| Brickmason/Stonemason | Repairer | Riveter |
| Budget Analyst | Hotel/Motel Manager and Assistant | Secretary |
| Carpenter | Household Electronic Equipment | Shipping and Receiving Clerk |
| Carpet Installer | Repairer | Small Engine Mechanic |
| Cashier | Industrial Machine Repairer | Solar Energy System Installer |
| Cement mason | Industrial Traffic Manager | Sound Engineer |
| Chemical Equipment Operator | Inspector. Tester, Grader | Stationary Engineer |
| Clerical Supervisor | Insulation Worker | Statistical Clerk |
| Communications Equipment | Insurance Agent | Stock Clerk |
| Mechanic | Insurance Claim Representative | Structural Metal Worker |
| Construction Laborer | Locksmith | Teacher Aide |
| Construction and Building Inspector | Machinist | Technical Writer |
| Cook/Chef | Manufacturers Representative | Telecommunications Worker |
| Counter and Rental Clerk | Meat Cutter | Telephone Installer and Repairer |
| Credit Manager | Merchandise Display Worker | Telephone Operator |
| Diesel Mechanic Dispatcher | Metal/Plastic Working Machine | Tool and Die Maker |
| Drywall Installer and Lather | Operator | Travel Agent |
| Electrical Power Line Installer | Millwright | Upholsterer |
| Electrician Electromechanical | Office Machine Operator | Vending Machine Mechanic |
| Equipment Assembler | Packer/Packager | Waiter/Waitress |
| Electronic Equipment Repairer | Painting/Coating Machine Operator | Welder |
| Electronic Technician | | Wholesale and Retail Buyer |
| Engineering Technician | | Woodworker |

**Appendix 1d.**
**Math is Important in a Wide Range of Careers: General Math**

| *General Math* | | |
|---|---|---|
| Administrative Assistant | Hazardous Waste Manager | Pharmacy Technician |
| Art Director | Housekeeper | Photo Laboratory Worker |
| Blacksmith | Landscape Architect | Photographer |
| Bus Driver | Laundry/Dry Cleaning Machine | Plasterer |
| Chemical Equipment Operator | Operator | Postal Clerk |
| Collection Worker | Lumber Production Worker | Postmaster and Mail Superintendent |
| Custodian | Mail Carrier | Preschool Teacher |
| Customer Service Representative | Mail Clerk and Messenger | Production Coordinator |
| Dental Assistant | Motion Picture/Radio/TV Art | Range Manager |
| Director/Producer | Director | Religious Worker |
| Electrocardiograph Technician | Musician and Composer | Reservation Agent |
| Electroencephalograph Technician | Numerical Control Tool Programmer | Roofer |
| Elevator Installer/Repairer | Nursery Worker | Service Station Attendant |
| Farmer/Farm Manager | Nursing Aide | Sign Painter and Letterer |
| Firefighter | Office Machine Repairer | TV and Radio Repairer |
| Flight Attendant | Parking Lot Attendant | Taxi Driver and Chauffeur |
| Gardener and Groundskeeper | Pest Controller | |

**Appendix 2.**
**SELF-EVALUATION ON QUESTIONING**

**Following is a self-evaluation checklist on questioning techniques.** ***During the class period:***

[ ] 1. Do I call on females as well as males for the tough questions?
[ ] 2. Do I pause before calling on a specific student?
[ ] 3. Do I ask questions without including a specific students name?
[ ] 4. Do I pause before responding to a students question?
[ ] 5. Do I pause after a student gives a response to my question?
[ ] 6. Do I call on a large number of students during the class period?
[ ] 7. Do I allow all the students to consider the answers to high-level questions before I call on one student?
[ ] 8. Do I use student pairs to arrive at solutions or discuss a students response?
[ ] 9. Do I direct all my questions to ALL students?
[ ] 10. Do I field appropriate student questions back to the class?
[ ] 11. Do I ask students to justify their answers so that their fellow students can learn from the response?
[ ] 12. Do I allow students to complete their answer before jumping in?
[ ] 13. Do I ask students to enhance their answer when it is not complete, or if I can't tell if they understood the concept?
[ ] 14. Do I allow students to respond to another students responses before I make a comment myself?
[ ] 15. Do I avoid yes-and-no questions?
[ ] 16. Do I avoid true-false questions?
[ ] 17. Do I avoid one-word-answer questions?
[ ] 18. Do I avoid asking questions similar to "Do you have any questions?"
[ ] 19. Do I avoid using questions as a disciplinary tool, or to capture attention?
[ ] 20. Do I avoid group responses to questions?
[ ] 21. Do I avoid asking and then immediately answering questions myself?
[ ] 22. Do I help a student to enhance his or her answer?
[ ] 23. Does my questioning give me meaningful input about the students understanding of the concepts being taught?
[ ] 24. Do I allow students to think and organize their ideas before asking them to respond in front of the entire class?
[ ] 25. Do I create a classroom atmosphere that makes it safe for students to be wrong?
[ ] 26. Are my students properly trained to act maturely when a student gives a wrong response?
[ ] 27. Do I avoid asking only top students high-level questions?
[ ] 28. Do my questions promote total student involvement, or do they inhibit student involvement?
[ ] 29. Do my questioning techniques raise the level of concern (but not fear) in my class?
[ ] 30. When there are only a few hands raised to respond to a question, do I provide alternative ways to respond in order to get more students to participate?
[ ] 31. When only one student can answer a question, do I use this input and help others to understand and become involved in the question?
[ ] 32. Do I allow students to discuss ideas with their partners before asking a particular student to share ideas with the entire class?
[ ] 33. Do I avoid calling out a name of a student before I ask a question?
[ ] 34. Do I avoid asking questions and then immediately calling on a student?
[ ] 35. Do I frequently walk around and monitor students' pencil-and-paper responses?
[ ] 36. Do my questions help me significantly in my goal to know who knows and who doesn't know?
[ ] 37. Do my questions help me learn the source of misunderstanding, or clarify any lack of understanding?

***The pursuit of excellence is never-ending....***

Motivation Counts - Teaching Techniques That Work,

David R. Johnson, Dale Seymour Publications, 1994

**Appendix 3.**
**Survey: Who should?**

What is your school? _____ What is your grade? (Circle your grade.) 3 4 5 6

What is your teacher's name? _____ Are you a boy or a girl? (Circle the right word.) BOY GIRL

Part I For each of these jobs, circle the 1 under MAN if you think only a man should do the job; circle the 2 under WOMAN if you think only a woman should do the job; or circle the 3 under both if you think both a man and woman should do the job. Be sure to *circle only one answer for* each job.

| | MAN | WOMAN | BOTH |
|---|---|---|---|
| 1. airplane pilot | 1 | 2 | 3 |
| 2. artist | 1 | 2 | 3 |
| 3. astronaut | 1 | 2 | 3 |
| 4. carpenter | 1 | 2 | 3 |
| 5. cook | 1 | 2 | 3 |
| 6. doctor | 1 | 2 | 3 |
| 7. forest ranger | 1 | 2 | 3 |
| 8. lawyer | 1 | 2 | 3 |
| 9. librarian | 1 | 2 | 3 |
| 10. lifeguard | 1 | 2 | 3 |
| 11. nurse | 1 | 2 | 3 |
| 12. President of the United States | 1 | 2 | 3 |
| 13. race car driver | 1 | 2 | 3 |
| 14. secretary | 1 | 2 | 3 |
| 15. store clerk | 1 | 2 | 3 |
| 16. sixth grade teacher | 1 | 2 | 3 |
| 17. telephone operator | 1 | 2 | 3 |
| 18. truck driver | 1 | 2 | 3 |
| 19. nursery school teacher | 1 | 2 | 3 |

Part II When there are class jobs to be done, who do you think should do them? Circle the 1 under BOY if you think only a boy should do them? Circle the 1 under GIRL if you think only a girl should do them/ or circle the 3 under BOTH if you think a boy and a girl should do them.

| | BOY | GIRL | BOTH |
|---|---|---|---|
| 20. messenger | 1 | 2 | 3 |
| 21. class president | 1 | 2 | 3 |
| 22. eraser cleaner | 1 | 2 | 3 |
| 23. librarian | 1 | 2 | 3 |
| 24. class secretary | 1 | 2 | 3 |
| 25. class treasurer | 1 | 2 | 3 |

Part III Now what about things at home? For each of these things, circle who *should* do it: a man, a woman, or both.

| | MAN | WOMAN | BOTH |
|---|---|---|---|
| 26. When children misbehave at home, who should correct them? | 1 | 2 | 3 |
| 27. Who should teach good manners? | 1 | 2 | 3 |
| 28. Who should take care of a sick child? | 1 | 2 | 3 |
| 29. Who should teach children right from wrong? | 1 | 2 | 3 |

Part IV Here is a list of jobs that people do at home. Circle who *should* do the job: a man, a woman, or both.

| | MAN | WOMAN | BOTH |
|---|---|---|---|
| 30. washing dishes | 1 | 2 | 3 |
| 31. taking out the trash | 1 | 2 | 3 |
| 32. grocery shopping | 1 | 2 | 3 |
| 33. paying bills | 1 | 2 | 3 |
| 34. cooking | 1 | 2 | 3 |
| 35. fixing things around the house | 1 | 2 | 3 |

| | | | |
|---|---|---|---|
| 36. dusting furniture | 1 | 2 | 3 |
| 37. scrubbing floors | 1 | 2 | 3 |
| 38. sewing | 1 | 2 | 3 |
| 39. working in the yard | 1 | 2 | 3 |
| 40. moving furniture around | 1 | 2 | 3 |
| 41. doing laundry | 1 | 2 | 3 |

Part V Here is a list of spare-time activities. Circle who *should do* them: a man, a woman, or both.

| | MAN | WOMAN | BOTH |
|---|---|---|---|
| 42. playing football | 1 | 2 | 3 |
| 43. swimming | 1 | 2 | 3 |
| 44. playing the violin | 1 | 2 | 3 |
| 45. going to sports games (like baseball) | 1 | 2 | 3 |
| 46. gymnastics | 1 | 2 | 3 |
| 47. helping in a hospital every week | 1 | 2 | 3 |

**This survey was developed by the Highlin School district, Project Equality, Seattle, Washington 98166.

# Middle Childhood Math Methods

School to Work

Instructional Module

Emphasizing Gender Equity



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# What is School-to-Work

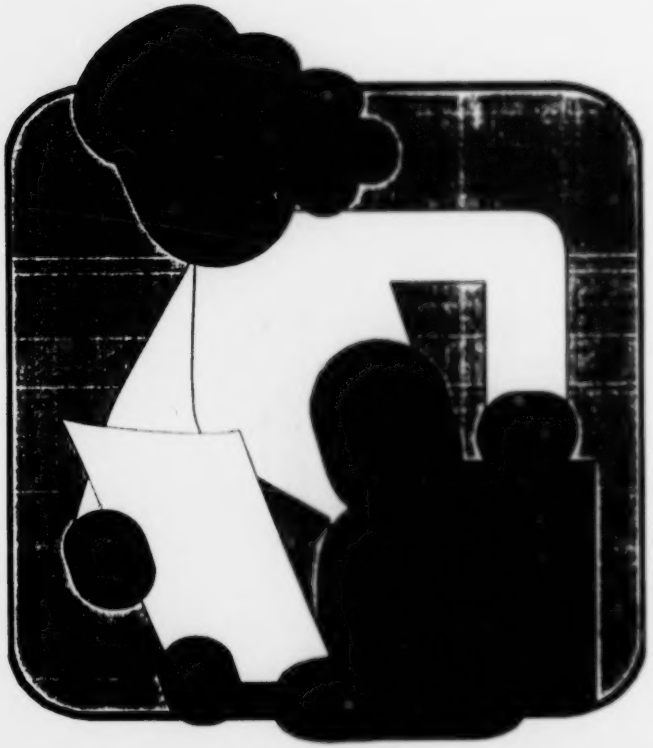
- School-to-Work Opportunities Act of 1994.
- Identified 5 competencies for students to acquire.
- Identified 3 foundations for students to be successful workers in the modern workplace.

# Identified Competencies

- Resources
- Interpersonal Skills
- Information
- Systems
- Technology

3

# Identified Foundations



- Basic Skills
- Thinking Skills
- Personal Qualities

# Math Module: Emphasizing Gender Equity

- Rationale:
  - Uses personal interview
  - Correlation between mathematic course and potential careers thus earnings
  - Collecting, organizing, and analyzing data

# Goals and Objectives

- Apply ideas of gender equity in field experience to reduce bias in the classroom.
- Connect mathematics content to the real world.
- Explore the mathematics requirements for a wide variety of careers.
- Investigate the effect of mathematic courses on potential career earnings.



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# National Council of Teachers of Mathematics

- NCTM emphasizes that mathematics is for ALL students.
- "Every child" is defined as students who have been denied access to educational opportunities as well as those who have access.
- "Every child" applies to students who have been identified as having a learning disability, as well as students identified as gifted and talented.

# Discussion Question 1:

- As future teachers, what can you do to be sure that your mathematics classroom procedures and environment are as equitable as possible?
  - Micro-Inequity Skits
    - http://www.woodrow.org/teachers/math/gender/07skits.html
  - Instructional Resources
    - http://www.coe.uga.edu/ingear/websites.html

# Discussion Question #2

- How can you be sure that ALL students are receiving the encouragement and information they need in their mathematics education for future success in a career?
  - Career Resource Guide for Teachers
    - http://www.woodrow.org/teachers/math/gender/13career.html
  - High Quality Includes All
    - http://www.tiac.net/users/ckassoc/Moving_to_mainstream.htm

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# Discussion Question #3

- What can be done to reduce bias in choosing careers and to make sure that students do not unknowingly place limits on themselves by choosing or failing to choose certain mathematics courses?
  - Career and Choices
    - http://wiuadm1.wiu.edu/mioip/careers/tableofcontents.asp

# Discussion Question #4

- As a future teacher how can you develop mathematics lessons which include ALL students and make connections to the workplace?
  - Lesson Planning
    - http://cyberbee.com
    - http://ericir.syr.edu/Virtual/Lessons
    - http://www.discoveryschool.com/schrockguide

# Activity One

- View a video tape of your field experience and complete the self-evaluation checklist.

  Self-evaluation checklist Appendix 2

  Brainstorm ways to use the self-evaluation checklist with your future students.

# Activity Two

- Ask two middle school students and two elementary students to complete the mathematics survey and bring your data to class.

  Survey: Who should?

  Work in small groups to analyze the gathered data. Analyze the results from the whole class. As a group find an appropriate way to display the data.

# Workplace Connection

- Students choose one career from a "Math is Important …" handout and contact someone who works in that field.

  Math is important…Appendices 1a, 1b, 1c, 1d

  Ask the contact person how they use math in their job and what math courses they took in high school that have been helpful. Research to find the average salary for the job to connect the level of high school math to potential career earnings. Compile the information into a class spreadsheet. Using a graphing calculator, make a scatter plot comparing the highest level of math to potential career earnings.

  http://govinfo.kerr.orst.edu/earn-stateis.htm

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# Evaluation

- Write a field experience journal reflection that describes the way you were able to incorporate a school-to-work activity into your field experience classroom. Include:

  How the students responded to the activity.

  What efforts and/or modifications did you make to accommodate for the inclusion of ALL students?

# Acknowledgements

School-to-work information was compiled by Lee Hamil and Cindy Geer.

Ann Dinkheller wrote the original Math Module.

Technological additions and the power point presentation were designed by Debora Kuchey.

# School to Work and Middle School Science Education

Connecting the world of work to middle school science



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The major mission of middle school science today is to prepare all students, including students with special needs, for the world of work.

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# Middle School Science Connections

- - "The major mission of middle school science today is to prepare all students, including students with special needs for the world of work."

- Line-Ups
- Do you agree or disagree?
- Line up according to what you think of this statement.
- O% - disagree to 100% - agree

# Paraphrasing

- Social Skill Development
- Use a T-chart
- What does paraphrasing sound like?
- What does paraphrasing look like?





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# Line-Ups Strategy

- Line up.
- Make sure you are in the correct spot.
- Turn to the person next to you and explain why you chose your position.
- Fold the line so that the person at 0% is talking with the person at 100% etc…
- Convince the person to change their position.
- Line up again.

Kagan (1992) 5

Discuss the responses of the line-ups activity.

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# Benefits of Line Ups Strategy

- *Everyone* can share his or her thoughts.
- Students are exposed to different opinions.
- ALL students participate.
- Opportunity to practice social skills.
- Effective strategy for current events.
- Integrated into science topics.
- Takes minimal amount of time.
- Meets the needs of all students.



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What are the major components of school to work at the middle school level?

# What is School-to-work?

- Belief that individuals learn best by doing and by relating what they learn in school to their experiences as workers.
- School-to-Work Opportunities Act of 1994
- Provides seed money to states to design a S-T-W system



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# What is S-T-W ?

- Activities, experiences, opportunities that prepare students for work.
- Includes ALL students
- Based on concept that learning works best and is most useful for future careers when students apply what they learn to real life, real work situations.

# Examples

- Youth apprenticeship
- mentoring
- interns
- job shadowing
- career exploration



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# Think-Pair-Share Strategy

- What are the major components of school to work at the middle school level?

- Count off by two's.
- Think about the question.
- Share with your partner.
- Share with the class.



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# Listening to one another

- Social Skill Focus
- Use the T-Chart.
- What does listening to one another look like?
- What does listening to one another sound like?





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# Discuss Results of School to Work Components Discussion



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# Benefits of Think-Pair-Share

- Everyone shares.
- Everyone participates.
- Meets the needs of all students.
- Practice social skills.
- Exposed to new ideas.
- More ideas and responses are created.



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# School to Work - Middle School

- Emphasis on Career Exploration
- Have exposure to integrated experiences between school and career
- Answers the question "Why do I have to learn this?"

# School-to-Work in Middle Schools

- School to work provides all students with:
  - Exposure to career options
  - Exposure to adults in a variety of occupational roles
  - Help identifying interests, aptitudes, and abilities

# Building Fundamental Skills

- Middle School Teachers can help students
  - identify and develop personal qualities.
  - recognize the application of these skills in their daily lives.
  - Practice thinking skills and develop personal qualities into the curriculum.



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# Connecting Academics with the Future

- Theses activities:
  - help students understand the link between their current academic studies and their future career choices
  - make learning more meaningful building the curriculum around 'real life' applications.

# Connecting Middle School Philosophy with S-T-W

- Meet the needs of early adolescents (age 10-14)
- Develop intellectual capabilities
- Cultivate Social Skills
- Define Personal Values
- Understand adult roles



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# A Middle School Science Activity Which Incorporates School to Work Components

# A Science Activity - What brand of paper towel absorbs the most?

- Students must develop a way to test the absorption of different brands of paper towels.
- Cooperative learning jobs: recorder, testers, presenter and materials manager.
- Social skills – giving constructive criticism
- Develop a hypothesis.
- Develop an experiment to test the hypothesis.
- Develop adaptations to facilitate full participation of students with disabilities.
- Identify controls, variables, needed materials.
- Perform the experiment. Collect and record data. Interpret the results.



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# Discuss the teaching strategy- Cooperative Learning

# Key Components of Cooperative Learning

- Individual responsibility
- Positive Interdependence
- Social skills
- Heterogeneous grouping
- Benefits in the classroom – social skill development, inclusion, teamwork, content understanding, motivation

# Cooperative Learning

- Set specific time limits.
- Start with short, simple activities.
- Start with two students in a group.
- Practice social skills.
- Process group work.

# Discuss the Science Concepts taught in the lesson.

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# Standards Connection – How does this activity meet Ohio and National Curriculum Standards?

# National and State Standards Connections

- Standards Connection – how does this activity meet Ohio and National Curriculum Standards?
- Think-Pair-Square Activity
  - problem or question posed
  - think time
  - square work



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# Discuss National and State Standards

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World of Work Connections:
What careers could be connected to the skills and concepts taught in this science lesson?

# Connect STW and Science Activity

- World of Work Connections: What careers could be connected to the skills and concepts taught in this science lesson? Brainstorm low skill level jobs to high skill level jobs.
- Round Robin
  - Count off by fours
  - Begin with #1 and move clockwise around the group. If you do not have an answer, say 'pass'.
  - Share with class.
  - #2 presenter, #3 recorder
  - Social Skills - listening to one another.



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# Discuss results of career connections and science activity



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# Career Connections

- Product development
- Marketing
- Product Tester
- Consumer Testing
- Paper Technology
- Salesperson
- Machine Technician
- Chemist
- Quality Assurance Technician
- Forestry Worker
- Stenographer
- Manager
- Public Relations
- Energy Conservationist and Use Technician





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# Career Connections

- Factory Worker
- Industrial Designer
- Environmentalist
- Technical Writer
- Research Assistant
- Soil and Water Conservation Agency
- Lumberjack
- Research Worker
- Production Coordinator
- Cost Estimator
- Security Guard
- Inspector and Compliance Officer
- OSHA officer
- Computer Maintenance



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# Teaming and Collaboration

- Examine the list of careers generated.
- Using the think-pair-share strategy and brainstorm how a person in a particular career would need to team/collaborate. (Consider ways to provide opportunities for individuals with special needs.)

- Discuss the importance of teaming and collaboration in the workplace.


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# Workplace Connection

- Representative from a local company discusses teaming and collaboration in the workplace.
- Why is teaming and collaboration important?
- Connecting the world of school to the world of work.
- Examples of workers in the company who need science knowledge.
- Inclusion in the workplace

Why are the connections between middle school science and the world of work important?

What do you need to do as a future middle school science teacher?



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# Summary

- Connect science content to the real world.
- Provide information and activities which connect to the world of work.
- Use cooperative learning to promote social skills.
- Use cooperative learning to promote collaboration and teamwork.
- Address state and national science standards.

# EVALUATION/REFLECTION

- Throughout the semester, incorporate real world, real work, technology, and inclusion components in lessons. (Designated sections on lesson plan format)
- Use cooperative learning strategies in lessons.



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# School to Work and Language Arts Methods

Dr. Mary Ann McConnell
Dr. Cynthia Geer

# Why are real life connections important in middle school?

- Adolescent development
- Global Economy
- Purpose of School
- National and State Standards
- District Standards
- School to Work Act
- Inclusion
- Diverse Populations

# School to Work Overview

- Belief that individuals learn best by doing and by relating what they learn in school to their experiences as workers.
- School-to-Work Opportunities Act of 1994
- Provides seed money to states to design a S-T-W system.

# School to Work Overview

- Activities, experiences, opportunities that prepare students for work.
- Includes ALL students.
- Based on concept that learning works best and is most useful for future careers when students apply what they learn to real life, real work situations.

**How are the language arts used in the workplace?**

**Reading, Writing, Speaking, Listening**

# What language arts skills are needed for different careers and education options?



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# Goals for Preservice Teachers:Language Arts & STW

- Recognize applications of language arts skills to a middle school students daily lives.
- Identify language arts skills and connect to the world of work.
- Identify students' interests, aptitudes, and abilities relative to language arts and career options.

# Goals for Preservice Teachers:Language Arts & STW

- Learn appropriate strategies to teach middle school students to communicate in oral & written form.
- Practice thinking and problem solving skills.
- Utilize individual and group techniques that fully include diverse populations.
- Facilitate individual responsibility & self-learning

# What language arts skills do different workers need?

- Reading, writing, listening, and speaking skills for:
  - teachers
  - mechanics
  - construction work
  - fitness trainers
  - parents

# Successful Learners and Workers

- What makes an individual a successful worker?
- What language arts skills can be connected to this success?
- Brainstorm ways to discover what and how language arts skills are used in the work world.

# Using language arts skills to conduct a successful interview

- Develop an interview form and questions to elicit language arts skills needed for a particular job.
- Determine what is the best way to gather the desired information.
- Develop an explanation to potential interviewees so they will respond to interview.
- Obtain permission to interview.

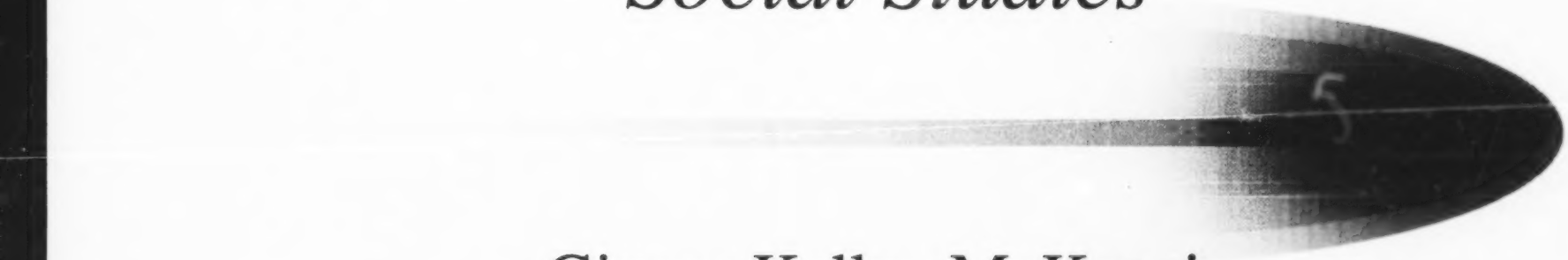
# What language arts skills do people need in their lives? Interview guidelines

- Conduct interviews in a public place such as a shopping area, park, bowling alley.
- Interview at least 10 people - different cultures, races, ages, gender, disabilities, different types of jobs should be included.

# Interview results

- Compile and analyze interview data to answer questions:
  - Are there similar language arts skills that cross all occupations?
  - Are there skills that appear to relate to specific types of occupations?
  - How can this information be used in a middle school language arts curriculum?
  - How can the findings relate to National and State standards?

# *Incorporating School to Work in Social Studies*



Ginger Kelley McKenzie
Winston Vaughn

# *What is School to Work*

- Enacted by congress in 1994
- An approach to career education
- Calls for collaborative efforts between schools and business to combine school and work based learning with connecting activities
- Includes opportunities for students with disabilities, women and minority groups
- Increased opportunities for students to prepare for careers

# *Why School to Work*

- Many young people leave school unequipped with skills needed to perform jobs in a modern, competitive world economy
- Employers are having difficulty finding individuals who are adequately prepared for today's demanding jobs
- Young people do not know what is available to them in the job market

# *Why School to Work*

- Understand vital issues of public life.
- Connect social studies curriculum with the real global community

# *Infusing into Curriculum*

- Instructional program is developed that is composed of
- school-based-learning--(academics and occupational skills)
- work-based-learning-(actual work environment)
- connecting activities-(build brides between school and work)

# *Goals and Objectives*

- Be able to describe diversity and multicultural aspects of the workplace
- Be able to teach others to develop positive work habits including natural support
- Participate in work site visits

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# *Workplace Connections*

- Make connections between the social studies and the jobs they will be involved in
- Making connections to workplace improves student motivation, and academic performance
- Prepare students to choose and follow careers
- Children learn best when they see a purpose for learning

# *Workplace Connection*

- Choose a site and set up interview
- Options - historical site, government office, local company, civil or criminal court, or factory
- Develop questions to include affirmative action policies, employment for people with special needs, facility provides access for handicapped people

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# *Worksite Visits*

- Socials studies programs need to be related to site visits where people are employed in areas of:
- History
- Geography
- Economics
- Sociology
- Government

# *In class Activities*

- Internet for School-to-work overview
- www.ici.coled.umn.edu/all/overview.html
- Develop questions for human resource lecturer
- Internet for Inter-Ethnic Council-Diversity
- www.iecgc.org/
- Internet for Valuing Diversity & Inclusion
- www/paragonmanagement.com/





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# *Possible Internet Sites*

- Internet for school to work overview
- www.ici.coloed.umn.edu/all/overview.html
- Internet for Valuing Diversity & Inclusion
- www.paragonmanagement.com/
- Ohio school to work
- www.ohio-stw.com/

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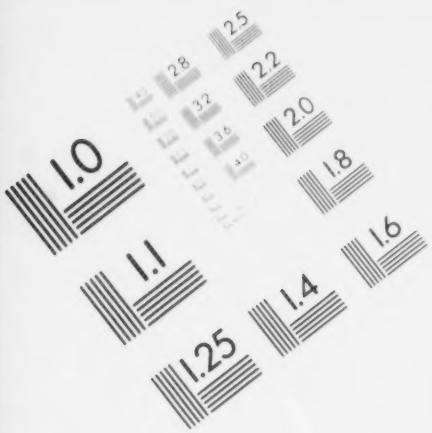

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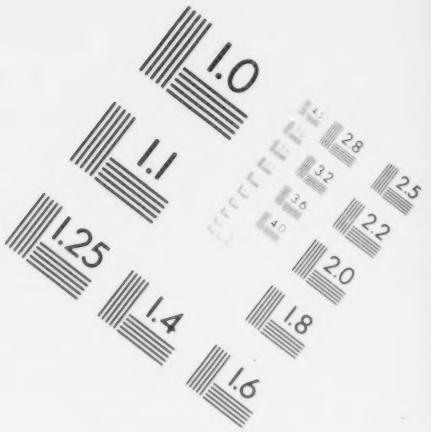

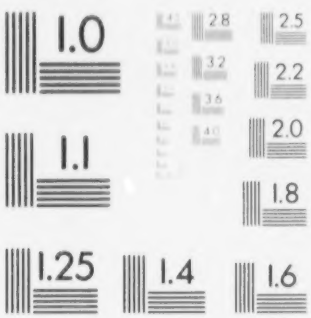


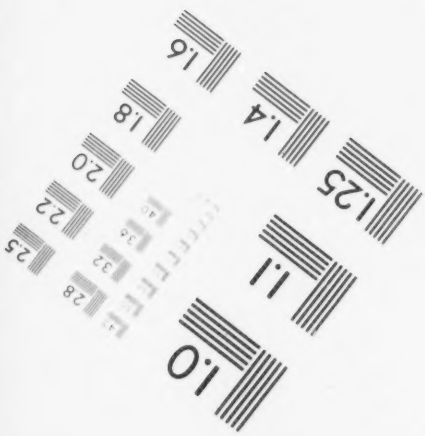


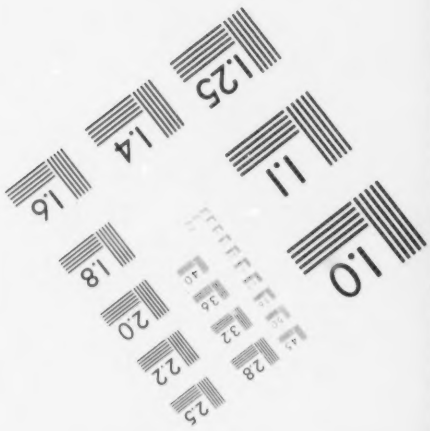


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# *Presentation by Students*

- Written and Oral Presentation
- How site included affirmative action plan, what opportunities were available for special need individuals, was there diversity in the workplace, how field experience met social studies skill requirement, were facilities handicapped accessible how to integrate this assignment in your middle school environment?

# *Evaluation*

- Students will meet to share their experiences.
- Group participants will evaluate each member of their group by writing a short comment.
- Each student will turn in comments about this experience to the professor.



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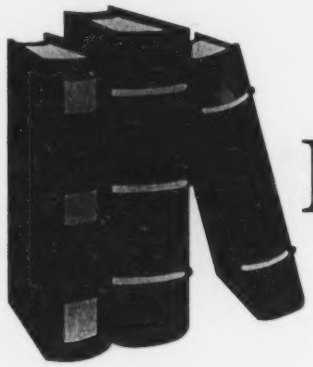


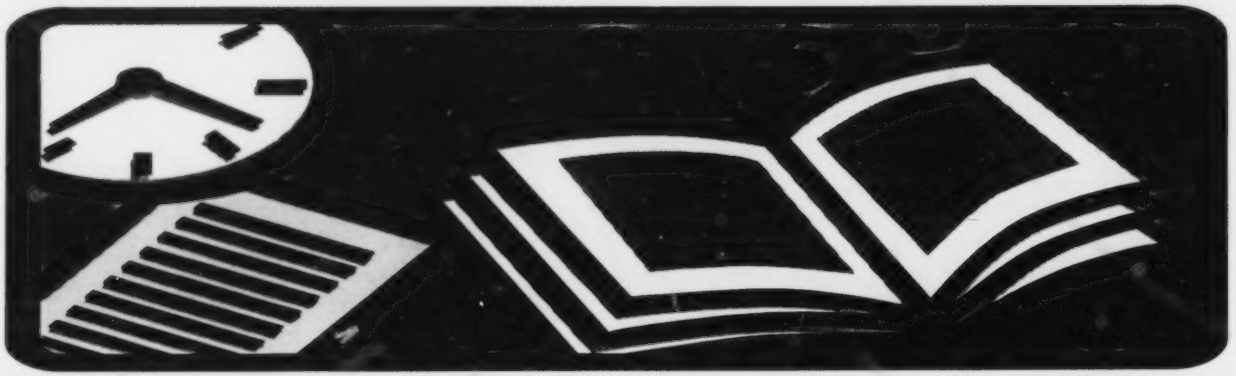
# Reading Strategies for School to Work Applications

## Reading, Writing, Speaking, and Listening Strategies for Job Success

**Presented by Dr. Leslie Ann Prosak-Beres**
**Xavier University**

# *Acknowledgment*

☆ **This presentation has been made possible by a grant from the State University Education Deans and the School-to-Work Systems Integration Coalition at the Ohio State University.**



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# What are the Standards for Language Arts and Reading ?

- **Students must read a wide range of material to:**
  - **build an understanding of print and non-print texts**
  - **develop strategies to communicate with appropriate language structure and conventions**
  - **use spoken, written, and visual language for learning, enjoyment, persuasion, and information**

# Role of the Teacher

**"…helping students to achieve a sense of control and ownership over their own use of language and learning in school, …which will in turn help to give them a sense of their potential power."**

**Ken Goodman**

# Contextual Influences

- Physical
- Social
- Psychological
- Cultural

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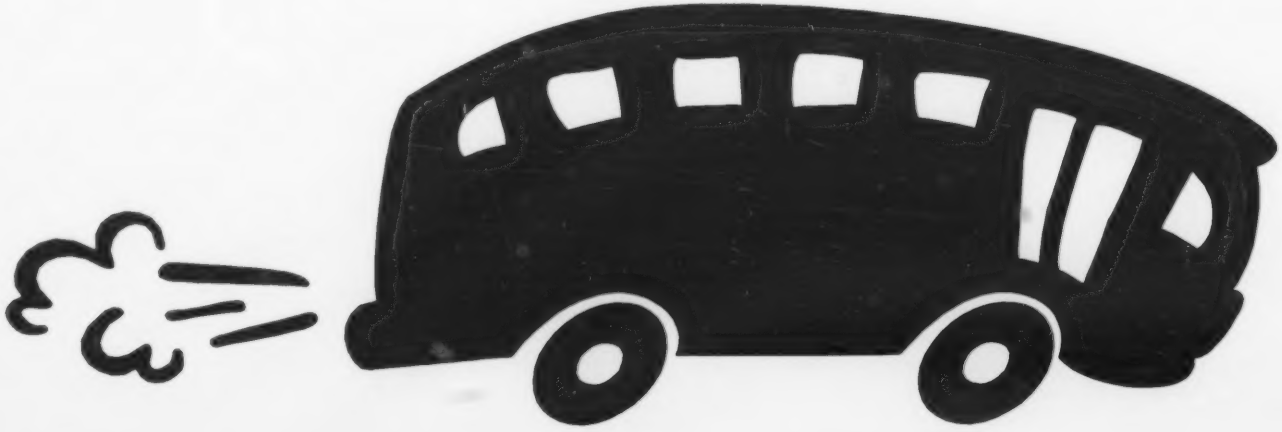
# Classroom Environment

- ✔ stimulating lessons and materials to facilitate learning and develop a sense of purpose for a productive learning process
- ✔ supportive climate to develop independent thinkers and collaborative learners who see the relationship between school the world of work

# Teacher as Tour Guide

- ✔ Has a good sense of what interests students
- ✔ Knows student's background information and experience
- ✔ Anticipates obstacles to learning process

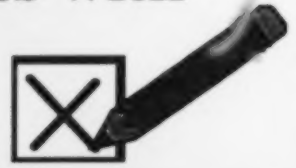


# Goals and Objectives for a Course in Content Area Literacy

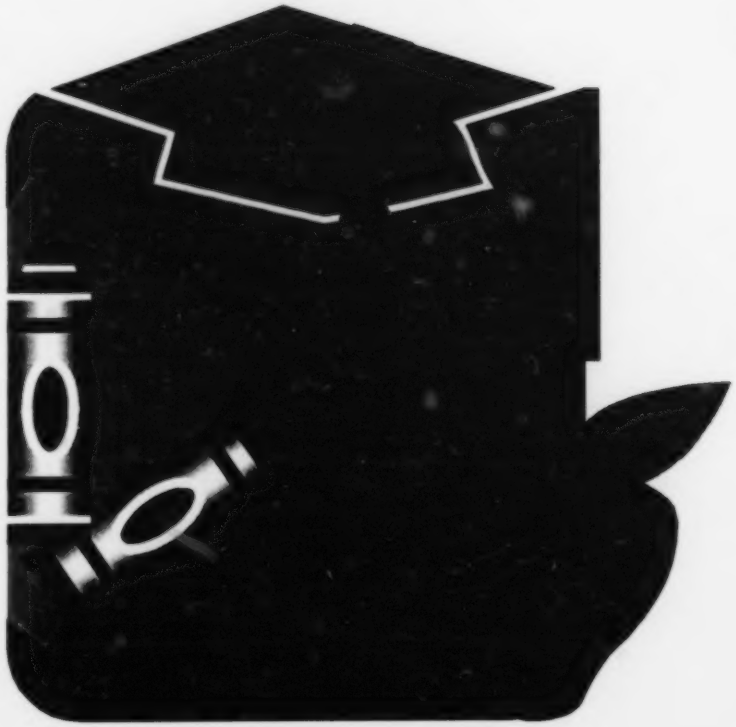
⇨ 1. **The teaching of philosophic beliefs regarding the reading process.**

⇨ 2. **The observation of reading strategies needed in the world of work.**

⇨ 3. **The development of thematic units which integrate the reading process with career cluster exploration.**



# Purpose of Course



- ✔ Create mentors who value content area literacy instruction
- ✔ Develop appropriate lessons and activities for classroom use
- ✔ Provide connections to the world of work

# Course Framework

- Preservice and inservice teachers will learn how to become content area literate through current study in the field of reading.
- Preservice and inservice teachers will develop integrated thematic units which will engage learners in active reading and thinking for a global society.
- Preservice and inservice teachers will create concrete learning experiences related to school-to-work job opportunities



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# Course Organization by Topics

① Issues in Literacy: Meeting State Standards

② Early Reading and Family Literacy

③ Integrated Literacy Instruction

④ Comprehensive Assessment of Readers and Writers

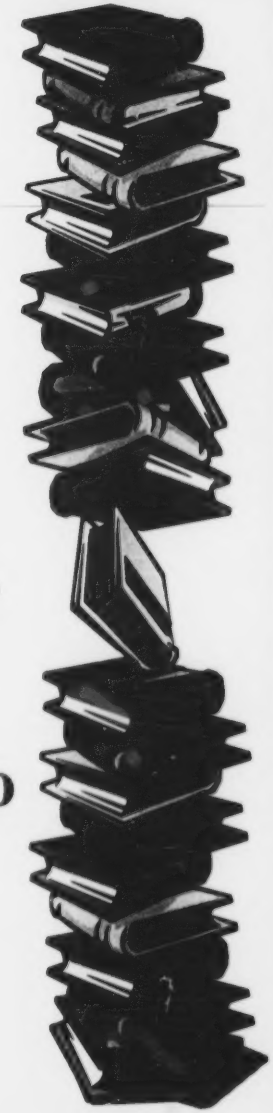
⑤ Literacy, Diversity and the At-Risk Learner

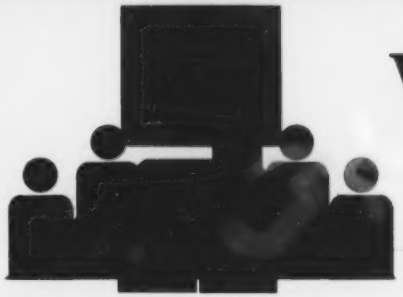
⑥ Technology and Literacy Instruction

⑦ Reading in the Real World

# Activities to Support Course Content

- Development of a personal working definition of reading and literacy
- Language origin/vocabulary study
- Exploration of teaching techniques for content area material
- Perusal of trade texts as supplements to content teaching
- Development of literacy assessment portfolio for content study





# Workplace Connection at the University Level

- Students will "shadow" various university personnel from University President to Support Staff.
- Students will log and journal the reading skills and strategies needed to fulfill each of the jobs in the select area of the university.
- Students will analyze data collected and prepare thematic units and seminar forum emphasizing the necessity of reading in the world of work.

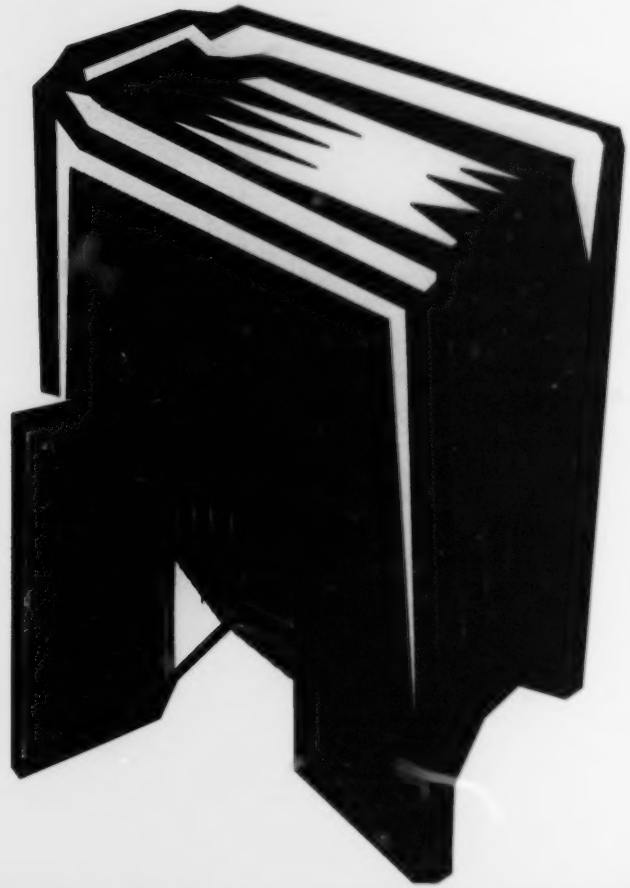
# Evaluation

- ✔ Mini and group projects related to school-to-work
- ✔ Development of thematic unit relating school-to-work and reading
- ✔ Self-evaluation of unit effectiveness
- ✔ Critique of content in school-to-work unit by university faculty
- ✔ Teaching performance of thematic unit
- ✔ Quality of school-to-work data collection and seminar forum

# CONCLUSION:

## Teacher Training in Literacy Enables Meaningful School-to-Work Application

- ✔ Theory to practice makes sense when applied to the world of work.
- ✔ Connecting literacy to work environments and school curriculum development "opens doors" for both teachers and students.



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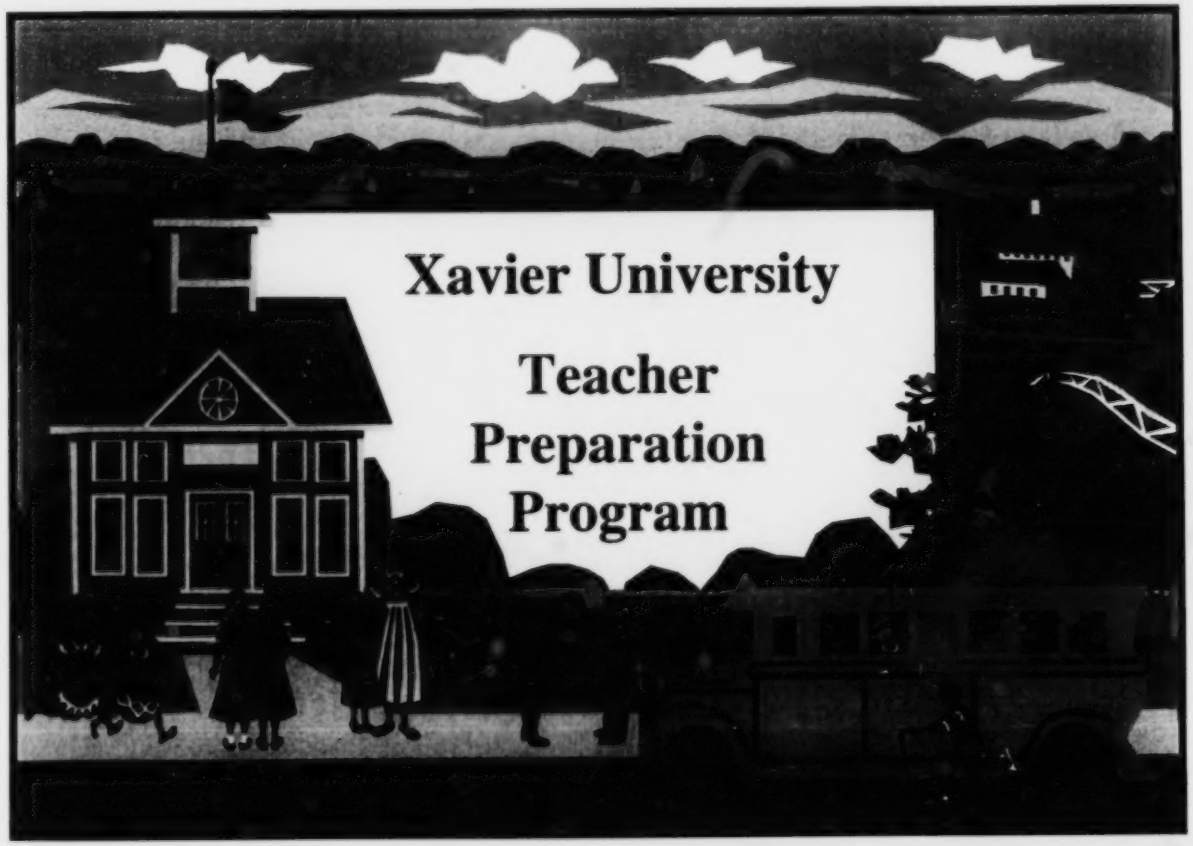




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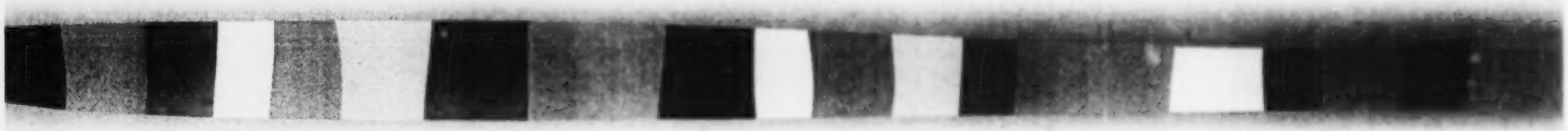
# School to Work Presentation



## The Arts At Work

# Rationale

- ROLE OF THE ARTS IN OUR LIVES
- CAREERS THAT MAKE USE OF THE ARTS
- ARTS CAREERS INCLUSIVE OF ALL STUDENTS



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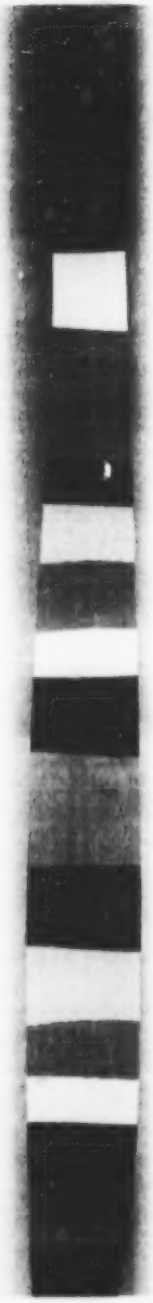

# Goals and Objectives

- Middle Childhood pre-service teachers design a unit exploring arts related careers.
- Unit follows Ohio Model Competencies.
- Unit encourages participation from a diverse group of learners, including those with disabilities.
- Technology is incorporated into presentations.

# Unit Title: Mall 2000

- Brainstorm careers that use the arts: visual, music, dance, & drama.
- Discuss careers involved in designing a shopping mall.
- Choose and research an arts career .
- Teacher projects visual layout of a mall
- Discuss mall design & arts connections.
- Students work in cooperative groups to design mall components.

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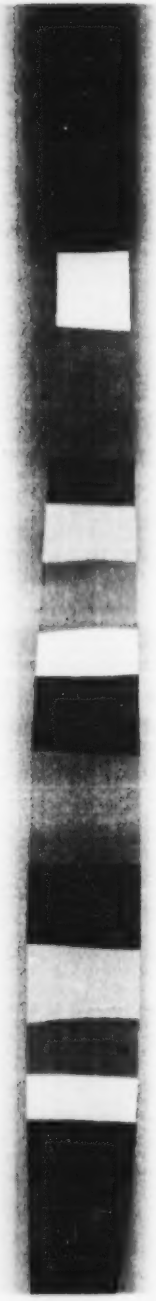
# Inclusion Considerations

- In cooperative groups students consider people with disabilities and their needs:
- Accessibility - doors, ramps, supports, restrooms, telephones, signage;
- Safety -- landscaping, lighting, parking;
- Aesthetics - color, texture, flower scents, music.



# Workplace Connection

- Students visit a local mall.
- Students take photos.
- Students compile data for their proposed designs.
- Students analyze data.
- Students meet with mall management and discuss accommodations for individuals with disabilities.



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# Technology Integration

- Use internet to research careers.
- Use digital camera and incorporate mall photos into presentations.
- Use instant cameras and scan photos into computer for presentations.
- Students analyze data on spread sheets.
- Students may use video, photo application, computer art, or power point in final presentations.

# Evaluation

- Performance Based Assessment
- Students will use technology and/or the arts to present their project to the class.
- Students will incorporate considerations for individuals with disabilities.
- Students must participate equally in the cooperative learning experience.

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